

Natural Environment Element

In conjunction with the State funding to Lewis County to develop this Subarea Plan, the State legislature allocated funding to the Washington Department of Ecology (DOE) and the Washington Department of Fish and Wildlife (WDFW). The DOE was funded to study water flow processes in the Cowlitz River watershed to ensure that development would not occur in areas important to reducing the impacts of flooding. The WDFW was funded to analyze habitats and ecosystem processes in the South County Subarea.

Existing Conditions

The Cowlitz River is the major river in the Subarea and is a designated shoreline under the Lewis County Shoreline Master Program. The Cowlitz River drains portions of the Cascade Mountains, passes through Toledo, and eventually flows into the Columbia River near Longview. Almost all of the Subarea is in the Cowlitz River watershed (a small, rural portion in the northwest corner of the Subarea is in the Chehalis River watershed). Some of the important tributaries of the Cowlitz River in the Subarea include Lacamas, Olequa, Bill and Salmon Creeks.

Floodplains are a significant natural feature in the South Lewis County Subarea. Portions of the Subarea were flooded in 2007 and 2009. Approximately 5,650 acres of land, or 8%, of the Subarea is located in the FEMA 100-year floodplain. Most of this floodplain is adjacent to the Cowlitz River, including portions of the Toledo Urban Growth Area (UGA). This portion of the Cowlitz River is controlled by the Mayfield and Mossyrock Dams which can limit the extent and severity of the flooding. There are also floodplain areas associated with Olequa Creek and its tributaries in the Vader and Winlock UGAs (see Natural Environment Map, Figure 3.1).

There are many wetlands in the South County Subarea. According to Lewis County's GIS data, there are approximately 5,975 acres of wetlands in the Subarea, or almost 9% of the Subarea. Most of these wetlands are located adjacent to the Cowlitz River, major streams, and floodplain areas; however, wetlands are found throughout the Subarea.

The Washington Department of Fish and Wildlife (WDFW) has identified over 280 species of birds, mammals, amphibians, and reptiles in Lewis County. Many of the historical prairielands have been converted to agricultural use; however, there is still native vegetation. The Cowlitz River, Lacamas Creek, Olequa Creek, and Salmon Creek are all important salmonid waters. At a broad scale, the WDFW's South Lewis County Habitat Analysis Report found the Subarea to have a habitat of high suitability for wildlife over much of its area. Generally, the areas of lowest suitability were within the three Cities (Toledo, Vader, and Winlock) and the road systems and agricultural areas associated with the cities. The habitat connectivity is good throughout most the Subarea, especially in the forest lands on the west, northeast, and southeast. Major barriers to habitat connectivity include the major roads in the Subarea such as Interstate 5, US 12, and State Routes 505 and 506.

Watershed Characterization and Analysis

The Washington Department of Ecology (DOE) completed a report on watershed processes in the South County Subarea, the Watershed Characterization and Analysis of South Lewis County – Lower Cowlitz River Watershed. The purpose of the report is to provide long-term protection of watershed processes and functions by identifying areas for protection, restoration, and

mitigation. DOE rated the areas in the Cowlitz River watershed for their importance to water flow processes. The terraces around and above the Cowlitz River are of moderate to high importance with the areas within the Cowlitz River floodplain being of highest importance. The areas of lowest importance are in the mountainous areas (see the Hydrologic Process Map, Figure 3.1).

DOE synthesized their data with data provided by BHC Consultants (parcel suitability for development) and the Washington Department of Fish and Wildlife (suitability for wildlife habitat). DOE prepared different alternatives, each with different levels of environmental protection and land development. These alternatives identified the best areas for development to occur and where conflict between conservation and development could result. Typically, the best areas for development are the Winlock UGA, portions of the I-5 corridor between the US 12 and SR 505 interchanges, southwest of the Vader UGA, and infill development within the Cities of Toledo, Vader, and Winlock.

The priority areas for consideration of restoration and protection of water flow processes are the Cowlitz River floodplain and the area immediately above it. These areas include the Cowlitz River, Otter Creek, Lacamas Creek, lower Salmon Creek, Mill Creek, and Blue Creek. The recommendations of the Watershed Characterization and Analysis Report are included at the end of this element.

Habitat Analysis

The Washington Department of Fish and Wildlife (WDFW) analyzed the habitat in South Lewis County. The purpose of the South Lewis County Habitat Analysis Report is to provide information on the habitat's ability to accommodate growth while minimizing impacts on local biodiversity. The WDFW identified the habitats in the South Lewis County Subarea which are the most important areas for conservation.

The South County Subarea is not pristine wilderness, but it has a low population density and large areas of forest, agriculture, and undeveloped land which allow for large contiguous areas of forest and open habitats. To preserve the biodiversity in the Subarea, large patches of all habitat types (conifer, hardwood, mixed forest, open/grassland, and wetland) need to be maintained. In addition, maintaining the connectivity between these areas allows the continued movement of species, which is important. Conservation and development/economic activities can both be accomplished if development occurs outside of, and does not fragment, existing habitat areas.

WDFW analyzed habitat at a broad and mid-level scale. At the broad scale, the South County Subarea shows moderate to high habitat value over much of its area. The mid-level analysis mapped the potential habitat areas of focal species which represent major habitat types in the Subarea. The focal species include Short-eared Owls, Western Meadowlarks, Merlins, Oregon Vesper Sparrow, Hermit and Townsend's Warblers, Hutton's Vireo, Pileated and Hairy Woodpecker, Common Porcupines, Northern Flying Squirrels, Bobcats, Northern Red-legged Frog, Western Toad, and Common Garter Snake. Due to the presence of highly suitable habitat for a number of these species in the Lacamas Creek corridor, WDFW recommends a focus area, which includes fish-bearing streams and multiple, diverse habitats, where conservation measures can be applied (see the Fish & Wildlife Habitat Map, Figure 3.2).

The report concludes, "Focused economic development within the Winlock UGA near the intersection of Interstate 5 and State Route 505, and in the immediate area of the airport

northeast of Toledo would not significantly reduce the availability of large habitat patches across the analysis area.” If most of the future residential development is within the existing UGAs, it would limit the impact of population growth on the habitat in the Subarea.

State Agency Recommended Policies and Strategies

DOE recommendations in the Watershed Characterization and Analysis of South Lewis County are as follows:

- Revise the Critical Areas Ordinance (CAO) to include a policy allowing for the adoption of a watershed based subarea plan and its regulations.
- The CAO should contain the following provisions:
 - Allow for the transfer of development rights (TDR) from areas that have high importance, habitat significance, or development conflicts to areas shown as having suitability for development.
 - Allow for the clustering of residential development on areas of higher importance outside of urban rural boundaries.
 - Application of green infrastructure measures in the terrace areas to maintain infiltration processes.
- Implement the recommendations of the Grays-Elochoman and Cowlitz Watershed Management Plan, including:
 - Protection of headwater forests and wetlands, especially for Olequa Creek.
 - Restore watershed processes in managed forest lands.
- Maintain and restore habitat in the Lacamas Creek Fish and Wildlife overlay area consistent with the recommendation of the WDFW characterization report.

WDFW’s recommendations in the Habitat Analysis Report specify methods to reduce the conflict between economic development and preserving habitat as shown below:

- Minimize new roads, especially in the interior of the focus area.
- Locate new buildings near existing roads and on the periphery of existing habitat patches.
- Cluster residential redevelopment to reduce its impact.
- Protect and enhance native riparian buffer vegetation.
- Consider incentive programs, such as transfer or purchase of development rights (TDR or PDR) to protect habitat areas and to provide value to landowners.
- Locate mitigation and restoration projects to enhance habitat values.

Adopted Critical Area Regulations

Lewis County adopted its Interim Critical Areas Ordinance (CAO) in June 1996 and revised it in 1998 and 2000. In December 2008, The Lewis County Board of County Commissioners approved the most recent update of the CAO. The purpose of the CAO “is to identify and protect the functions and values of critical areas using the best available science, protect human health and safety, and give special consideration to conservation or protection measure necessary to preserve or enhance anadromous fisheries as required by the Growth Management Act...” The CAO update balances the need to protect the County’s critical areas while protecting individual property rights. The CAO covers the following critical areas: wetlands, aquatic habitat, wildlife

habitat, aquifer recharge areas, geologically hazardous areas, and frequently flooded areas (see Figure 3.3 for known wetlands, streams, and floodplains).

Development applications for projects on sites with critical areas are reviewed to ensure that the application is in conformance with the County's critical area regulations. These regulations include a significant menu of mitigation measures for protecting critical areas such as buffers, wetland mitigation banks, cluster development, and design standards, as illustrated in the following language excerpted from the CAO:

- 1) Assessment Relief.
 - a) The Lewis County assessor shall consider the impact of the critical area regulations contained in this chapter on property values when determining the fair market value of land.
 - b) Any owner of a critical area and its buffer who has dedicated a conservation easement to or entered into a perpetual conservation restriction with a department of the local, state, or federal government; or to a nonprofit organization to permanently control some or all of the uses and activities within this area may request that the Lewis County assessor reevaluate that specific area with those restrictions.
 - c) The administrator shall notify the assessor's office of any application of this chapter which results in building restrictions on a particular site.
- 2) Open Space. Subject to the criteria established by law, any person who owns a critical area as identified by this chapter may apply for current use assessment pursuant to Chapter 84.34 RCW. The Open Space Tax Act allows Lewis County to designate lands, which should be taxed at their current use value. The county has programs for agricultural lands, small forest lands less than 20 acres in size, and other open spaces. Lewis County has adopted a public benefit rating system which classifies properties on the basis of their relative importance of natural and cultural resources, the availability of public access, and the presence of a conservation easement. These features are given a point value, and the total point value determines the property tax reduction. Lands with an important habitat or species would commonly qualify for this voluntary program. Applications are approved by the board of county commissioners following a public hearing.
- 3) Conservation Easement. Any person who owns an identified critical area as defined by this chapter may offer a conservation easement over that portion of the property designated a critical area naming the county or its qualified designee under RCW 64.04.130 as the beneficiary of the easement. The purpose of the conservation easement shall be to protect, preserve, maintain, restore, limit the future use of, or conserve for open space purposes the land designated as critical area(s), in accordance with RCW 64.04.130. Details governing easement restrictions and conditions of acceptance shall be negotiated between property owners and the county. Acceptance of such an easement and the consideration therefore, if any, shall be discretionary with the county and subject to the priorities for and availability of funds.
 - a) The administrator may attach such additional conditions of acceptance as deemed necessary to assure the preservation and protection of the affected wetlands and buffers within conservation easements to assure compliance with the purposes and requirements of this chapter.

- b) The responsibility for maintaining conservation easements shall be held by the overlying lot owner(s) or other appropriate entity as approved by the administrator.
- c) Lewis County may establish appropriate processing fees for such conservation easements.

Conceptual Approaches to Environmental Protection Incentives

In addition to the mitigation measures required by the CAO, the South Lewis County Subarea plan promotes the idea of using incentives as additional means for protecting critical areas and resource areas. Some conceptual approaches to environmental protection incentives that have been used in various jurisdictions include:

Public Benefit Taxation

Lewis County property taxes can be reduced if uses such as conservation, habitat enhancements, and protection of water resources, in addition to continued use of agricultural and forest lands, are judged to meet state and county criteria for tax relief. A point system is used to determine a public benefit rating and the associated reduction in the taxable assessed value. It is possible for the assessed value to be reduced as much as 80%. Property owners receiving this benefit must provide a conservation/management plan that identifies how the identified use(s) will be continued. A sampling of property taxes levied in South Lewis County ranges from less than \$10/acre for forest land, less than \$50/acre for farmland, less than \$500/acre for residential property, and over \$2,000/acre for intensive commercial and industrial property. Under State law, counties have the ability to provide tax reductions for a broad range of benefit types. The tax reduction can be as high as 90%.

Dedications and Easements

Lewis County has provisions for dedication of land or conservation easements managed by the Real Estate Division of Public Works. For the County to purchase easements, there would need to be an appropriation of funds through the Capital Projects Fund 301 for land acquisition or another action by the BOCC. Currently, there are no funds budgeted. Easements purchased by private developers would be negotiated between the purchaser and seller, as would transactions for conservation lands purchased by developers and then dedicated to the County, a land trust, or other stewardship organization.

Bonuses

Some jurisdictions grant bonuses as an incentive for developers to provide features considered public amenities, such as parks, affordable housing, and enhanced wetlands. In most, but not all cases, these bonuses are granted when the amenities are provided on-site. Lewis County grants density bonuses to properties “on which cultural or historic sites or structures are located to provide the opportunity for public and/or research access to the areas.” In many jurisdictions, Residential Planned Unit Developments (PUDs) grant density bonuses as an incentive for better site design, meaning that a development project can be granted a higher density than what would have been allowed in that zone for a more traditional site design.

Transfer and Purchase of Development Rights and Density Fees

“Development right” is a term used to describe the value of a unit of development, generally a residential dwelling unit. Transfer of a development right is the transaction where the right to build the “unit” is attached to a parcel or site other than the one where the right originated. The transfer is essentially a sale based on the value of the unit. The TDR practice has been used nationally for many years to relieve rural and resource areas from development pressures in counties. Its application in Washington has long been used by King County. King County also has a purchase of development rights program that is used to protect valuable farmland, funded by a voter-approved levy. Currently, the state and the Puget Sound Regional Council are working on a regional TDR program that is intended to allow transfers between and among cities and counties in the Puget Sound Region. TDR programs are complicated, since “sending” and “receiving” areas must be identified, and the procedures for establishing values, transaction protocols, and administration can involve substantial commitments of staff time.

A version of TDR is “in lieu” fees. According to the July 10, 2008 Alternative Transfer of Development Rights (TDR) Transaction Mechanisms by the Cascade Land Conservancy:

A density fee may be used to achieve land conservation as an alternative to other incentive mechanisms like TDR. Developers pay a fee to the sponsoring public agency to build to higher density than baseline zoning allows, or take advantage of other incentives set forth by the program, like building to greater heights than otherwise allowed. Funds collected are used by the jurisdiction to fund Purchase of Development Rights (PDR) in high priority conservation areas. Density fees are often set to a specific dollar amount per additional unit of development.

Evaluation by Criteria

- 1) Ease of participation for buyers and sellers
A conservation fee greatly simplifies the transaction process. The removal of the development rights seller from the equation reduces the number of parties involved. The requirement of a fixed or formula-based fee eliminates uncertainty for the developer and expedites the transaction by eliminating price negotiations.
- 2) Cost effectiveness and ease of administration
This mechanism would require a high degree of public involvement, as the government would be instrumental in every step of the transaction. Administrative costs would be higher than private market transaction mechanisms, since the government’s responsibilities would be more diverse and complex under this scenario. Not only would the government have to perform all the clerical functions, it would have to manage a sizeable financial operation.
- 3) Effectiveness in policy implementation
One of the most unique aspects of conservation fees is that this mechanism gives the government the greatest discretion in targeting specific parcels for conservation. With no private market to influence the spatial distribution of participation, the government has the flexibility to spend conservation funds on land that it deems highest priority for protection. The government can use the funding to organize its conservation efforts however it wants: protecting specific sensitive areas, waterways, or large contiguous areas. The main catch with this approach is that the landowner whose development rights the government wants to purchase must be willing to sell for the price offered.

4) Political Feasibility

This mechanism has not been sufficiently tested empirically to provide enough evidence of its feasibility, but it should not encounter more political obstacles than any other alternative mechanism. From the point of view of the developer, the certainty of the fee structure has advantages, even if the amount of the fee may be higher than the cost of privately traded development rights. Developers may resist another government-imposed regulatory fee. Alternatively, developers are accustomed to paying a variety of fees for construction projects, and this may come to be seen as another cost of doing business. From the point of view of the landowner, individuals may be reluctant to do business with the government, but if the payments offered for development rights are sufficiently high then the process should generate transactions.

Advantages

- This alternative is simple to administer.
- A fee maximizes certainty for developers.
- This mechanism gives the sponsoring agency control of where development rights are purchased. Purchases can be targeted to high priority areas for conservation.
- A fee can be coordinated with a PDR program, leveraging public resources for additional purchases of development rights.

Disadvantages

- This approach could be viewed by developers as another tax or fee, adding to the cost of development. For this reason, political feasibility is questionable, especially in areas where distrust of government runs high.
- If a program allows both private market transactions and a conservation fee option, coordination could be difficult. The fee would need to be carefully calibrated and routinely updated to match values established in the private market, otherwise the private market could be undermined.

Recommendations

Incentive programs should be simple to understand and manage. Development proposals inside the new economic development urban growth areas proposed by this Subarea Plan will involve a considerable amount of environmental analysis, site planning, and financial analysis, including market feasibility assessments and appraisals of land values. In these areas, County regulations require environmental protection of critical areas. However, it would be very desirable to have incentives in place which support more intensive development while mitigating impacts to on-site critical areas or protecting other nearby natural resources. While dedications, conservation easements, and development rights transfers or in-lieu fees can accomplish this objective, their implementation through a government system appears challenging at this time. One particular challenge for large scale developments presumably phased over lengthy periods, would be the correlation of land values with the timing of actual permitting and construction.

The recommended approach would link UGA development intensity to the protection of proportionate amounts of land in areas identified by Ecology and Fish & Wildlife or otherwise selected due to their functions and values. This approach would result in a formula that would associate an increase of the allowed amount of impervious surface in a development to the land area protected through outright purchase, conservation easement, or dedication, leaving the

transaction up to the parties involved. Implementing this approach would require the County to:

- 1) Establish the maximum amount of impervious surfaces –
For urban commercial and industrial sites, development is frequently allowed to cover up to 100% of the total area. This is not building footprint only; it includes rooftops and pavement of streets, parking lots, walks, plazas, etc. In order to reach this amount of coverage, a piped stormwater system including underground detention would be required. In addition, such a site would have no landscaping and would not contain any wetlands or other critical areas, so the impacts associated with removing those on-site critical areas would have to be mitigated off-site according to the replacement/enhancement provisions of Lewis County's critical area regulations. However, this level of urban intensity would be unlikely in South County. Through public review, master plans for urban commercial and industrial development would likely be required to include perimeter buffers to respect adjacent rural and resource uses; surface water management would require that projects include detention ponds and biofiltration swales and rain gardens; and site amenities would likely be required, including landscaping around buildings, in parking areas, and recreation areas for employees. Recognizing the likely development scenario for South Lewis County, this approach assumes that the maximum impervious surface coverage would be 50% - 70% of the buildable or developable site area (not including wetlands, streams, habitats, erosion hazards, etc).
- 2) Establish the ratio of area-wide environmental protection necessary to exceed the maximum impervious coverage –
This ratio should be high enough to ensure that significant amounts of land with priority hydrological and habitat features are permanently protected from rural subdivision and development. For illustrative purposes, a ratio of 10 acres of protected land for every additional percentage of impervious surface coverage is suggested. The actual ratio could be determined through an economic proforma analysis of the development value of additional impervious surface compared to the off-setting value of the lands to be protected. However, since the "value" of protected areas is qualitative as well as monetary, it might be best to let the buyers and sellers negotiate prices. There is a considerable amount of potential land in South Lewis County that should be protected (as identified by the state agency studies). This "free market" approach would seem to be self-regulating in terms of pricing. The County role could be an administrative one rather than legislative or judicial.
- 3) Initiate a period of trial applications in two or three projects through the master plan process –
This would enable the approach to be used in actual cases and lead to subsequent refinements based on the outcomes.

Figure 3.1: Importance of Hydrologic Processes in the South County Subarea

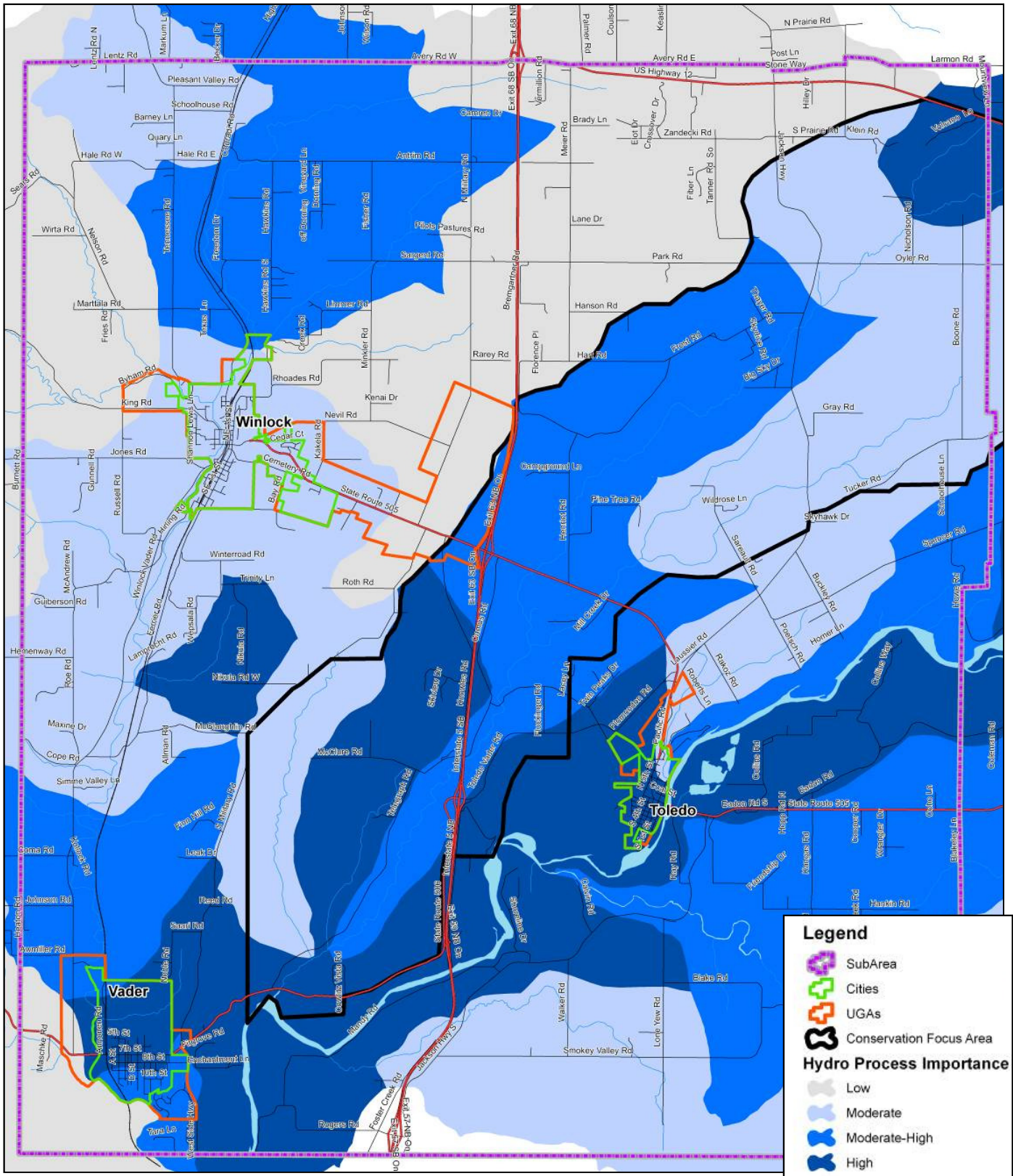


Figure 3.2: Fish and Wildlife Habitat

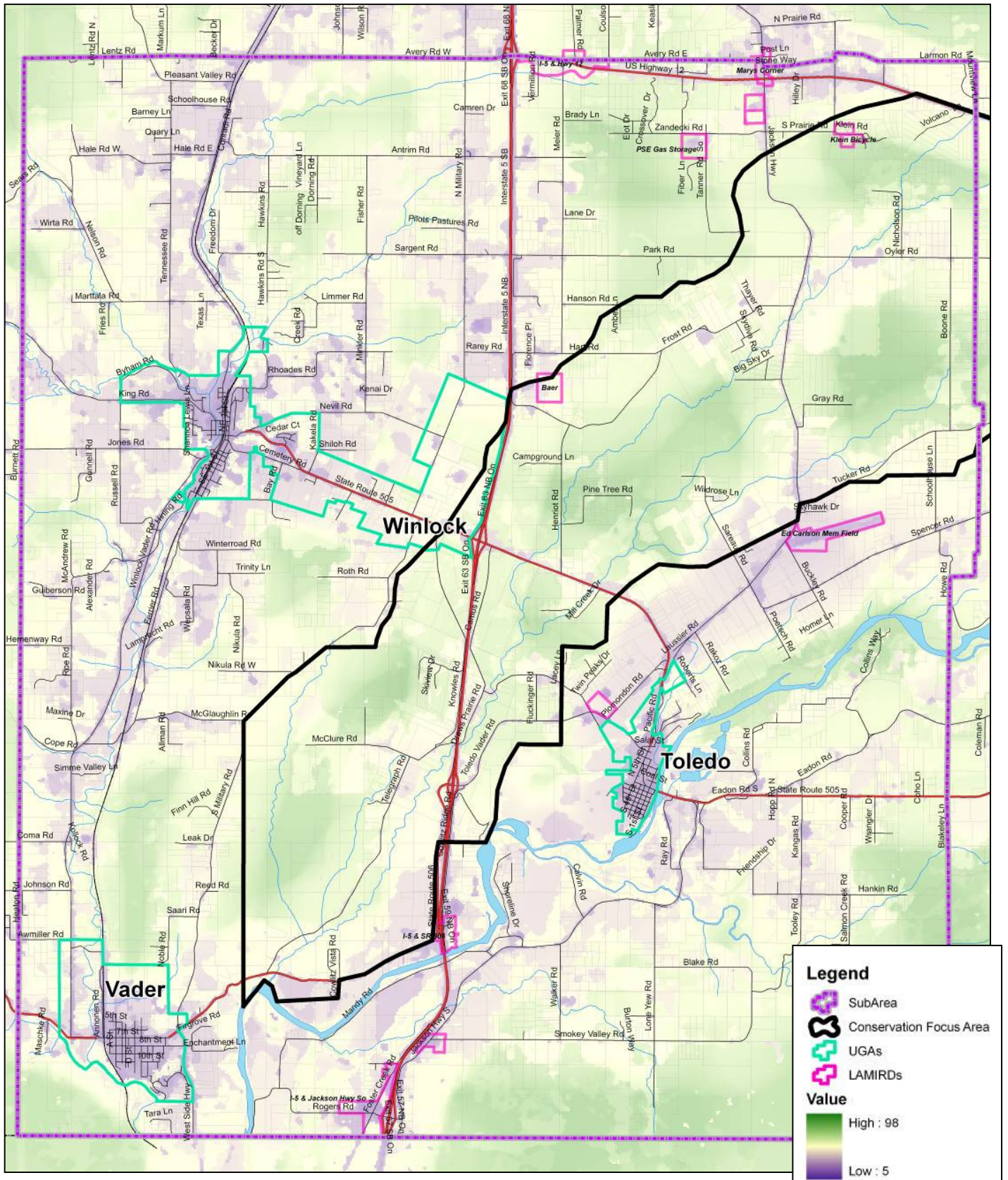


Figure 3.3: Wetlands, streams, and floodplains in the Subarea

